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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/821,256

03/29/2001

Brian D. Minert

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04/19/2005

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SALT LAKE CITY, UT 84101

EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,256

Applicant(s) ☒

MINERT ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-11, 14-25 and 28-35 is/are rejected.
7) ☒ Claim(s) 12, 13, 26 and 27 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/29/01.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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Amendment, filed 02/07/02 has been entered. Claims 1-35 remain pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 15-18 and 28-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 15 and 28, a STX or IPAX compatible gateway switch, as specification, including page 13, does not disclose the list of the functions essential for compatibility with STX or IPAX.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8, 14, 31, 32, 34 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8, 14, 31, 34 and 35: the limitation “least cost routing” is unclear in the light of the disclosure. Least cost routing is well known in the IP routing, where the cost is associated with a number of hops/delay a packet needs to get from the originating IP station to the destination IP station. The disclosure refers to “least cost routing” in a circuit switched network (page 18), where usually the cost is associated with toll charges. But the specification does not describe what “least cost routing” is in a circuit switched network environment.

Claims 15 and 28 limitations “a STX or IPAX compatible gateway switch” is unclear, because STX or IPAX products are likely to change in their lifetime, incorporating and dropping features, making the limitation indefinite.

Claim 31 limitation “network trunk having available IP-based packet network resources” is unclear, because it is not understood what IP resources a trunk can possess.

Claims 34 and 35 limitations “look-ahead routing at said terminating VoIP switch” are unclear, because it is not understood what is “look-ahead routing” and how it differs from the well-known traditional IP routing.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-6, 9, 10, 15, 19, 22, 23, 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Curry (US 6,078,582).

7. Regarding claims 1, 15, 22, 23, 25 Curry teaches a method and a system for VoIP telephone calling over an IP –based packet network (VoIP architecture on Fig. 6 and 11:46-67, 12:1-15) comprising:

Initiating a telephone call to a designated location associated with a designation telephone number (Internet long distance call processing, step 120 on Fig. 9A and 14:60-67, 15:1-7);

Connecting said telephone call to an originating VoIP gateway switch over PSTN (connecting the call to internet telephony server ITS 72 on Fig. 6 and in step 124 of Fig. 9A 15:7-17);

Determining a preferred route (dedicated virtual path to maintain a prescribed service level, Qos 12:60-64) from the originating VoIP gateway switch to said destination through the IP-based network (routing response in step 128 on Fig. 9A and 15:17-33) and through a terminating VoIP gateway switch nearest said destination (ITS 72b on Fig. 6 serving the area code of the destination phone 12:16-38) and using enhanced SS7 signaling packets (using packetized CCIS query messages 15:15-65, wherein CCIS signaling is essential part of SS7 7:10-57 and the SS7 messages are enhanced as shown on Fig. 7 to become compatible with IP network 14:40-47); and

Setting IP two-way communication through said preferred route using said enhanced SS7 signaling packets over said IP-based packet network (step 144 on Fig. 9B, establishing two-way communication link 16:4-14).

In addition, regarding claim 15, Examiner gave no patentable value to claim limitation “STX or IPAX compatible gateway” interpreting it as a gateway.

In addition, regarding claims 22 and 23, Curry teaches origination phone (64a), destination phone (64b), local and remote switches (41), originating gateway (72a), Internet 74 and terminating gateway (72b) on Fig. 6.

In addition, regarding claim 25, Curry teaches

Setting up terminating VoIP settings based on the predetermined route (translation table 90 and Fig. 10A, identifying terminating VoIP gateway IP address 12:16-38),

Sending and receiving an enhanced SS7 signaling replay packet back to said originating VoIP gateway switch including said terminating VoIP settings (routing response in step 128 on Fig. 9A and 15:18-33),

Sending an enhanced SS7 signaling replay packet to start the VoIP call (sending data packet with session ID to the origination VoIP gateway 15:54-65 and step 138 on Fig. 9A),

Exchanging the voice packets until a termination event occurs (two-way communication over Internet, step 148 until the termination, step 150, 16:4-21), and

Tearing down the VoIP call by exchanging enhanced VoIP signaling terminate packets (sending disconnect message to the corresponding gateway 16:15-21).

8. Regarding claims 2 and 3, Curry teaches switching the call through a local switch, comprising a central Office, through PSTN to the originating VoIP gateway switch (through one of local switches 41 on Fig. 6, disclosed as an end office switch 7:1-9, through PSTN 1:59-62 to the corresponding originating VoIP gateway switch 72 on Fig. 6).

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9. Regarding claim 4, Curry teaches selecting a local switch from ISP system (ISPs on Fig. 1 and 1:36-62).
10. Regarding claims 5, 6, 9 and 10, Curry teaches determining destination phone number (determining the dialed digits in step 122 on Fig. 9A, 15:7-10) and identification information of the calling party (15:10-23) and determining switching parameters for the terminating VoIP switch based on selected routing criteria (getting IP address of the destination, using the predetermined virtual path 15:25-32 to provide the minimum guaranteed service level).
11. Regarding claim 19, Curry teaches tearing down the telephone call after a calling party hangs up (disconnect condition in step 150 on Fig. 9B, disconnecting the call 16:15-21).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Admitted Prior Art (specification, page 16, using calling line identification).

Curry teaches all the limitations of parent claims 1 and 5.

Curry does not teach determining the telephone number by calling line identification.

Admitted Prior Art teaches determining the telephone number by calling line identification.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add determining the telephone number by calling line identification of Admitted Prior Art to

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the system of Curry to utilize well known method of line identification for obtaining a Guaranteed Service Level for the calling number (Curry, Fig. 10C and 13:46-52).

14. Claims 8, 11, 24, 31, 32, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Pickett (US 6,154,465).

Regarding claims 8, 11, 24, 31, 32, Curry teaches all the limitations of the parent claims. Curry does not teach using least cost routing, including selecting carriers, and private Internet including bandwidth on demand.

Pickett teaches using least cost routing (least cost routing 11:1-22, selecting the best route for all networks connected to communication system 50, including local and long distance carriers 6:63-66) and private Internet including bandwidth on demand (B/W management 11:47-67 and 12:1-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the feature of using least cost routing and private internet including bandwidth on demand of Pickett to the system of Curry to improve the system cost efficiency and calls quality.

In addition, regarding claim 31, Curry teaches selecting an available circuit switched trunk (inherently part of the system, because Curry teaches establishing a plurality of communication links through circuit switched networks 17:16-21).

Regarding claim 32, Curry teaches sending an enhanced SS7 signaling replay packet to start the VoIP call (sending data packet with session ID to the origination VoIP gateway 15:54-65 and step 138 on Fig. 9A).

Regarding claims 34 and 35, Curry substantially teaches the limitations of the claims 34 and 35 (see claim 1 rejection above).

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Curry does not teach using least cost routing.

Pickett teaches using least cost routing (least cost routing 11:1-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using least cost routing of Pickett to the system of Curry to improve the system cost efficiency and calls quality.

15. Claims 20, 21, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Fenton (US 6,445,697) and further in view of Naiman (US 4,621,357).

Regarding claims 20, 21 and 28, Curry substantially teaches the limitations of claims.

Curry teaches VoIP gateway switch, comprising:

PCM and TDM backplane (inherently part of digital switch 106 on Fig. 7, because it interfaces trunk 68, disclosed as T1 or T3 connection. T1 and T3 formats are based on PCM and TDM), T1 connection circuitry/plurality of T1 cards configured for switching conventional voice signals over PSTN (inherently part of telephony platform 100, because the platform performs basic telephony functions 14:9-27 and has numerous trunk lines 68 11:46-65, requiring a plurality of T1 cards),

Time slot interchanger/digital switch in communication with T1 connection circuitry (digital switch 106 interfacing T1 line on Fig. 7 and 14:9-27),

System CPU board (master control unit MCU 108 on Fig. 7 and 14:22-26), and

VoIP module (TCP/IP 116 and Router 118 on Fig. 7 and 14:36-59).

Curry does not teach using E1 lines, separating a time slot interchanger into each card and interconnecting voice signals from separate T1/E1 cards through a PCM backplane.

Fenton teaches using E1 lines (4:21-24).

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Naiman teaches separating a time slot interchanger into each card and interconnecting voice signals from separate line cards through a PCM backplane (TSI units 11 and 12 and Time multiplex switching unit 10 interconnected with each other by PCM/TDM lines 13-16 on Fig. 1 and 3:16-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using E1 lines of Fenton and TSI structure of Naiman to the system of Curry to improve the system compatibility with E1 networks and increase the TSI reliability by separating it into several devices each related to a one of plurality of linear cards.

Regarding claim 29, Curry teaches a vocoder for compressing said signals (VPU units 112 for compressing voice signals 14:26-30).

16. Claims 16-18 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Fenton.

Regarding claims 33 and 16, Curry substantially teaches the limitations of claims 33 and all the limitation of parent claim 15.

Curry does not teach using E1 lines.

Fenton teaches using E1 lines (E1 lines 4:19-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using E1 lines of Fenton to the system of Curry to improve the system compatibility with E1 networks.

Regarding claim 17, Curry does not teach separating a time slot interchanger into each card and interconnecting voice signals from separate T1/E1 cards through a PCM backplane.

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Naiman teaches separating a time slot interchanger into each card and interconnecting voice signals from separate line cards through a PCM backplane (TSI units 11 and 12 and Time multiplex switching unit 10 interconnected with each other by PCM/TDM lines 13-16 on Fig. 1 and 3:16-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add TSI structure of Naiman to the system of Curry to increase the TSI reliability by separating it into several devices each related to a one of plurality of linear cards.

Regarding claim 18, Curry teaches a vocoder for compressing said signals (VPU units 112 for compressing voice signals 14:26-30).

Allowable Subject Matter

17. Claims 12, 13, 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
Patent Examiner.
04/05/05



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